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## Introduction

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Engineering Technology 9/10 is a course designed to introduce students to various engineering theories and practices. This course will combine both theoretical and practical skills as students will be faced with numerous design challenges and be required to apply their skill and knowledge to develop or manufacture its solution. Skills developed and learned in this course will transcend to other courses/subjects such as Mathematics, Physics, Science, Electronics and other Applied Skills disciplines. This course follows the Integrated Resource Package set forth by the BC Ministry of Education for Technology Education Grades 9 –10 and will consist of understanding the Design Cycle:

### **Design Cycle**

1. Recognizing the Problem
2. Research/Design/Draw
3. Manufacturing/Building a Prototype
4. Testing/ Evaluation

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## Expected Learning Outcomes

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### **Ministry Big Ideas for Engineering 9/10**

- User needs and interests drive the design process.
- Social, ethical, and sustainability considerations impact design.
- Technologies help us accomplish many specific tasks in our lives.

### **Upon successful completion of this course students will be able to:**

1. Demonstrate the ability to plan, reason, organize and manage activities.
2. Combine a wide variety of technical skills, materials and processes to construct a unique response to a design challenge to the best of their abilities.
3. Effectively respond to design briefs and design criteria

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## Course Content

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Students enrolled in Engineering Technology 10 can expect to study a variety of topics which may include:

- Shop/Machine Safety and Theory
- Technology and Society
- Bridge/Structure Design and Theory
- Robotic Design and Theory
- Aerodynamic Design and Theory
- Propulsion Design and Theory
- Catapult Design and Theory
- Drafting/Design and Theory
- Electrical Design and Theory
- Electronics Design and Theory
- Wood Manufacturing Processes
- Metal Manufacturing Processes
- Material Science

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**Resources**

All resources will be provided to students throughout the duration of the course.

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**Policies**

- Safety** ----- The Technology Department has a zero tolerance policy on violations of safety regulations
- Power Tools** ----- Before using power tools students must:
- Witness a demonstration
  - Pass mandated safety tests
  - Ask the permission of the teacher
  - Wear safety equipment
- Attendance** ----- Being a Technology course, **ATTENDANCE IS MANDATORY**
- Clean-up**----- **ALL** students are expected to actively participate in clean-up
- Notebook** ----- Notebooks and the appropriate supplies must be brought to **EVERY** class

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**Teacher Expectations**

Students are expected to arrive to class on time and with **the necessary binders, textbooks, and supplies**. Students are expected to respect his/her classmates, teacher, and classroom – failure to do so will lead to further disciplinary action that may result in expulsion from the course! Students will be expected to cleanup during the last 5-10 minutes of every period. Last and perhaps most importantly, students are expected to work safely at all times and observe proper “safe work habits”.

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**Student Expectations**

Students can expect to work in a clean, positive, and safe environment – one that is free of racism, sexism, and all others forms of harassment! He/she can also expect to be treated in a fair and respectful manner by both teacher and fellow students. If, at any time, you feel that these expectations are not being met feel free to approach me (the teacher). My “door” is always open and I will **always** treat you fairly and respectfully (as long as this respect is mutual).

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**Assessment & Evaluation**
**Grading/Evaluation Rules:**

Grades are not provided using the traditional scoring system (ie: percentages). In Engineering students are developing skills therefore assessment is focussed on the acquisition of those skills. It is expected that as the year unfolds, each student’s skills will improve through repetition and practice. As these skills improve so too will their achievement. At reporting time, the mark will best indicate where the student’s skill acquisition is at that moment (ie: the “now”) rather than an average for their entire body of work term.

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**Communication and Tutorials**

*Communication:* The easiest way to get in touch with me outside of regularly scheduled class time is through email: [GARobertson@sd44.ca](mailto:GARobertson@sd44.ca)

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Tutorials: **Office Hours/ Tutorial Time: 8:30 – 9:11am Rm 141**

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**Shop Safety Principles & Guidelines:**

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1. Are you **DRESSED/PROTECTED** appropriately!?  
Wearing: Safety goggles  
Hearing protection  
Closed toed shoes or boots  
Not Wearing: Jewelry  
Loose clothing  
Loose, untied hair  
Ear buds (ie: music)
2. Do you have **PERMISSION** to be using that equipment?
3. Always follow posted **PROCEDURES** for each machine
4. **RESPECT**...  
Your classmates  
Your teacher  
Your classroom
5. **PUNCTUALITY** – please arrive to class on time as instructions for the period almost always take place in the first 15 minutes of class
6. Everybody likes a **CLEAN SHOP**...
  - Please leave the shop in the same condition you found it in!
7. Do you have **PERMISSION** to leave the shop?
8. **HORSEPLAY** is not permitted in our shops!